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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,484	09/20/2005	Hiroki Yoshioka	268533US90PCT	5341
22850 7590 01/10/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MORILLO, JANEL COMBS	
			ART UNIT 1742	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/10/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/530,484

Applicant(s)

YOSHIOKA ET AL.

Examiner

Janelle Combs-Morillo

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 040605,042406.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 8 is objected to because of the following informalities: the range of B of 3-10mass%, is outside the range of instant claim 1 of  $B \leq 100\text{ppm}$ . It appears the boron range of claim 8 is a typo, and applicant meant to refer to 3-10ppm B (0.0003-0.0010 B). For the purposes of this office action, claim 8 is held to be drawn to 3-10ppm B. Appropriate correction/explanation is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 982410 A1 (EP'410).

EP'410 teaches an aluminum alloy with good machinability, said alloy containing ranges of Si, Fe, Cu, Sn, Bi, and Zn that fall within the ranges of instant claims 1, 2, 4-7 (see EP'410 at Table 1, example 1). Because EP'410 teaches example within the presently claimed alloying ranges it is held that EP'410 anticipates the instant invention.

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4. Claims 1, 2, 4, 5, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2001-107169A (JP'169).

JP'169 teaches an aluminum alloy with free cutting ability, said alloy containing ranges of Si, Cu, Sn, Bi, Mg, and Zn that fall within the ranges of instant claims 1, 2, 4, 5 (see JP'169 at Table 1, example 5 and 9). Concerning claims 9-11, JP'169 teaches said alloy is process by extruding, thereby obtaining excellent machinability when cutting (abstract). Because JP'169 teaches example within the presently claimed alloying ranges and processed substantially as presently claimed, it is held that JP'169 anticipates the instant invention.

5. Claims 1-7, 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirano et al (US 6,780,375).

Hirano teaches an aluminum alloy with good cuttability, and further teaches examples within the presently claimed alloying ranges of Cu, Sn, Bi, Zn, Mg, Fe, Si ranges of claims 1-7 (see Table 1 of Hirano at example 8).

Concerning claims 9-11, Hirano teaches working said Al-Cu alloy by extrusion, and further performing a step of cutting (example 1, column 4).

Because Hirano teaches example within the presently claimed alloying ranges, as well as a product by process with substantially identical process steps, it is held that Hirano anticipates the presently claimed invention.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'169 or EP'410 or Hirano (US 6,780,375) in view of "ASM Handbook: Vol. 13 Corrosion", p 599-600.

The prior art of JP'169 or EP'410 or Hirano do not mention the coating of an anodic oxide layer on said Al-Cu alloy. However, "ASM Handbook: Vol. 13 Corrosion" teaches anodic coatings are applied to aluminum alloys in order to form a protective barrier with greatly improved protection against corrosive conditions (p 599, 3<sup>rd</sup> column). It would have been obvious to one of ordinary skill in the art to form an anodic oxide layer on the Al-Cu alloys taught by JP'169 or EP'410 or Hirano because "ASM Handbook: Vol. 13 Corrosion" teaches anodic coatings are applied to aluminum alloys in order to form a protective barrier with greatly improved protection against corrosive conditions (p 599, 3<sup>rd</sup> column).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'169 or EP'410 or Hirano (US 6,780,375) in view of "Aluminum and Aluminum Alloys" p 41.

The prior art of JP'169 or EP'410 or Hirano do not mention the presence of 3-10 ppm B. However, "Aluminum and Aluminum Alloys" teaches that boron is added to aluminum and its alloys as a grain refiner, at levels  $\leq 0.10\%$  B to effect the grain size of the cast structure (Fig. 46). It would have been obvious to one of ordinary skill in the art to add B to the Al-Cu alloys taught by JP'169 or EP'410 or Hirano because "Aluminum and Aluminum Alloys" teaches that boron is effective in refining the grains of aluminum alloys.

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*Conclusion*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCM  
December 26, 2006

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